Amendments to the Claims:

The following listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for producing a homogeneous compressed gas mixture, said method comprising:

premixing separately supplied gases to form a non-homogeneous gas mixture;

passing the non-homogeneous gas mixture into a buffer tank;

conveying the gas mixture from the buffer tank into a compressor;

compressing the gas mixture in the compressor;

withdrawing a substantially homogeneous compressed gas mixture from the compressor; and

returning a portion of the compressed gas mixture withdrawn from the compressor through a return line to the buffer tank,

wherein a control valve is installed in the return line for adjusting the return of compressed gas mixture to a desired volume percentage of the compressed gas withdrawn from the compressor, and wherein said gas mixture ~~comprises~~ consists of at least one perfluorinated or partially fluorinated hydrocarbon ~~or ether~~ and N_2.

2-6. (canceled)

7. (currently amended) A method according to claim 1, wherein said ~~mixture comprises~~ at least one perfluorinated or partially fluorinated hydrocarbon is selected from the group consisting of C_3F_8, CHF_2CF_3, CF_3CHFCF_3, CH_2FCF_3, CH_3CF_3, CHF_3, CF_4, CF_3CF_3 and CF_3OCHF_2.

8. (original) A method according to claim 1, wherein the compressed gas mixture withdrawn from the compressor has a pressure of up to 13 bar.

9. (canceled)

10. (original) A method according to claim 1, wherein a homogeneous compressed gas mixture is produced having a composition which deviates by at most ±0.7 volume % from ideal homogeneity.

11. (original) A method according to claim 1, wherein gas streams which are to be mixed are regulated using mass flow meters.

12. (original) A method according to claim 11, wherein said method is carried out in a mobile mixing apparatus.

13. (previously presented) A method according to claim 1, further comprising introducing the substantially homogeneous compressed gas mixture as an insulating gas into a current-carrying underground cable, a gas-insulated circuit or a gas-insulated switch.

14. (previously presented) A method according to claim 1, further comprising passing the non-homogeneous gas mixture into a static mixer prior to passing the non-homogeneous gas mixture into the buffer tank.

15. (previously presented) A method according to claim 1, further comprising passing the non-homogeneous gas mixture into a static mixer prior to conveying the gas mixture into the compressor.

16. (previously presented) The method according to claim 1, wherein a gas flow rate is greater than 200 standard m^3 per hour.